Date: April, 2004

FARM MANAGEMENT

Guidelines For Estimating

Swine Farrow-Wean to 5 kg Costs

Based On 600 Sows 13,119 Pigs Sold

This publication is intended to provide a format and a set of guidelines for determining the cost of production for a swine farrow to 5kg enterprise. This operation is intended to represent the first stage of a three stage system. Adjustments will be necessary when applying these figures to your enterprise.

The assumptions on which the costs are based are outlined in the supporting pages. These assumptions were arrived at using the breeding stock, management practices, and facilities seen in modern, well managed swine operations of comparable size in Manitoba. Productivity and performance assumptions are based on information collected by department specialists, feed companies and other organizations. Where individual herd productivity and performance levels differ from those listed, adjustments will be required.

The guideline can be useful for comparison purposes. Comparison of costs at different levels of production can be made with other farms, the farm over a period of time or comparing the plan with the actual results at the end of the planning period.

Disclaimer: This budget is only a guide and is not intended as an in depth study of the cost of production of this industry. Interpretation and utilization of this information is the responsibility of the user. If you require assistance with developing your individual budget, please contact your local Manitoba Agriculture, Food and Rural Initiatives office.

Farrow-Wean to 5 kg Pig Cost of Production

The following farrow-wean cost of production budget is **based on the assumption that all feed is purchased**.

The budget also includes a land investment cost based on the assumption that 160 acres would be required for this size of operation, with 140 acres being rented out at $25 per acre.

If developing a cost of production budget to include home mixed rations the following items should be added to the budget:

- additional equipment costs associated with a mix mill;
- additional bins for different ingredients;
- additional labour for feed preparation.

The rations illustrated in this budget are examples only. Individual farm conditions should be taken into account when formulating the diets. Producers need to know what the feed intakes of their animals are. Please consult with a nutritionist for diet formulation suggestions.

The Manitoba pork production industry profile is changing and this budget was specifically designed to address the need of producers who may want to analyze the cost of starting up or switching to a farrow wean 5 kg operation. Several companies are offering contracts with varying levels of guarantees. Producers need to accurately calculate their costs before they can properly make a decision.

600 Sow Farrow-Wean to 5kg Cost of Production Summary
April, 2004

A. Operating Costs	$/Pig Sold	$/Sow	Total Cost	Your Cost
1. Feed Costs:				
1.01 Sow Lactation Ration	$2.94	$64.30	$38,570	
1.02 Sow Gestation Ration	$10.75	$235.12	$141,042	
1.03 Boar Ration	$0.48	$10.50	$6,297	
1.04 Creep Feed	$1.78	$38.93	$23,352	
Total Feed Cost	**$15.95**	**$348.85**	**$209,261**	
2. Other Operating Costs:				
2.01 Veterinary Medicine & Supplies:	$1.34	$29.31	$17,579	
2.02 Maintenance & Repairs	$0.35	$7.65	$4,592	
2.03 Hydro & Propane	$1.94	$42.51	$25,500	
2.04 Insurance	$1.40	$30.55	$18,328	
2.05 Manure Costs	$1.00	$21.82	$13,090	
2.06 Office Supplies	$0.09	$2.00	$1,200	
2.07 Marketing & Transport.	$0.50	$10.94	$6,560	
2.08 Sow Replacement	$3.64	$79.61	$47,753	
2.09 Boar Replacement	$0.99	$21.63	$12,972	
2.10 Property Tax	$0.53	$11.67	$7,000	
Subtotal Operating Costs	$27.73	$606.54	$363,835	
2.11 Interest on Operating Costs	$0.35	$7.74	$4,644	
Total Operating Costs	**$28.09**	**$614.28**	**$368,479**	
B. Fixed Costs				
3. Depreciation:				
3.01 Buildings & Manure Storage	$1.74	$38.05	$22,827	
3.02 Equipment	$2.62	$57.30	$34,372	
Total Depreciation Cost	**$4.36**	**$95.35**	**$57,199**	
4. Investment:				
4.01 Land Cost	$0.12	$2.67	$1,600	
4.02 Buildings & Manure Storage	$0.84	$18.29	$10,969	
4.03 Equipment	$0.64	$14.02	$8,411	
4.04 Breeding Herd	$0.73	$16.00	$9,600	
Total Investment Cost	**$2.33**	**$50.98**	**$30,580**	
Total Fixed Costs	**$6.69**	**$146.33**	**$87,779**	
C. Labour				
Wages, benefits and hired manager	**$8.80**	**$192.46**	**$115,447**	
Total Cost of Production	**$43.58**	**$953.07**	**$571,705**	

Break-Even Price	$/Pig	
Operating Cost	$28.09	
Operating & Labour Cost	$36.89	
Operating, Labour & Fixed Cost	$43.58	

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Farrow to 5 kg Pig Production Costs

1. This input table outlines the production assumptions used.
2. Buildings and equipment are valued at new cost.
3. Manure haulage is contracted out.
4. Gilts are purchased for herd replacement.

Indicators of Productivity

Sows	**600**
Replacements/month	**20**
Boars	**30**
Litters/Sow/Year	**2.35**
Average Weaning Age (days)	**20**
Average Born Alive per Litter	**10.9**
Percent Pre-Weaning Mortality	**12.0**
Percent Post-Weaning Culls	**3.0**

Herd Profile	**Total**	**/Sow**	**/Litter**	**%Mortality**
Sows	600			
Replacements	20			
Boars	30			
Litters	1,410	2.35		
Pigs Born Alive	15,369	25.62	10.90	
Pigs Died, Pre-Weaning	1,844	3.07	1.31	12.0
Pigs Weaned	13,525	22.54	9.59	
Pigs Culled	406	0.68	0.29	3.0
Weaner Pigs Sold	13,119	21.87	9.30	

Feed Requirements and Costs			**Purchased**	**Home-Mixed**
Sow Gestation Ration	**2.6**	kg/day	**$228.00**	$0.00
Sow Lactation Ration	**6.0**	kg/day	**$274.00**	$0.00
Boar Ration	**2.5**	kg/day	**$228.00**	$0.00
Creep Feed	**1.0**	kg/pig	**$1,520.00**	$0.00

Labour

Total Hours per 7-day week	**185.0**	hours/week
Wage (includes benefits & hired manager)	**$12.00**	/hour

Sow Barn Capital Investment

Buildings	Area ft²	Cost $/ft²	Total Cost	/Sow	Your Cost
Gestation	16,740	**$17.50**	$292,950	$488.25	
Farrowing	6,000	**$19.50**	$117,000	$195.00	
Office Mechanical & Loading	**1,000**	**$20.00**	$20,000	$33.33	
Standby Generator			$25,000	$41.67	
Feed Mill (building only)			$0	$0.00	
Total Building Cost			**$454,950**	**$758.25**	
Equipment [1]					
Gestation		**$15.25**	$255,285	$425.48	
Farrowing		**$20.00**	$120,000	$200.00	
Fire Alarm System			**$3,000**	$5.00	
Feed Bins (4 bins)			**$4,000**	$6.67	
Ingredient Bins			**$0**	$0.00	
Total Equipment Cost			**$382,285**	**$637.14**	
Total Buildings and Equipment Cost			**$837,235**	**$1,395.39**	
Breeding Stock					
Value of Replacement Sow	$350	/sow	$210,000	$350.00	
Value of Replacement Boar	$1,000	/boar	$30,000	$50.00	
Total Breeding Stock Cost			**$240,000**	**$400.00**	
Land Value					
Land Investment **20** acres @	**$500**		**$10,000**	**$16.67**	
Other Costs					
Site Preparation			**$30,000**	$50.00	
Manure Storage			**$18,000**	$30.00	
Total Other Costs			**$48,000**	**$80.00**	
Total Capital Investment			**$1,135,235**	**$1,892.06**	

[1] FOOTNOTE: The number of sqare feet allocated for buildings and equipment are approximations. Cost per sow for buildings and equipment will vary around the province.

FOOTNOTE: 1 sq.ft. = 0.0929 sq.m; 1 sq.m.= 10.764 sq.ft.; 1 ft.= 0.3048 m

Feed Ingredient Costs

Ingredients	Price/tonne	Your Cost
Wheat	$149	
Barley	$120	
Corn	$155	
Soybean Meal - 47 %	$465	
Canola Meal - 34%	$360	
Peas	$180	
Creep Premix	$850	
Sow Micro Premix	$3,500	
Grower Micro Premix	$2,500	
Canola Oil	$900	
Whey Powder	$800	
Herring Meal	$1,400	
Plasma	$7,500	
Limestone	$80	
Dical (16% Ca-21% P)	$455	
Salt - 96%	$100	
L-Lysine HCL	$4,500	
L-Threonine	$6,400	
DL-Methionine	$4,500	
Oats - Steam rolled	$400	
Processing Cost		
(Hydro,repairs/maintenance & insurance)	$3.25	
Percent Weight loss due to processing	1.25 %	
Labour Cost	$4.00	

Feed Requirement and Cost Summary

	Amount		Ingredient Price		Ration Cost	
Sow Gestation:	(kg)		($ /tonne)		($ /tonne)	Your Cost
Wheat	253.0		$149.00		$37.70	
Barley	539.0		$120.00		$64.68	
Canola Meal - 34%	80.0		$360.00		$28.80	
Peas	91.0		$180.00		$16.38	
Sow Micro Premix	5.0		$3,500.00		$17.50	
Limestone	14.3		$80.00		$1.14	
Dical (16% Ca-21% P)	13.1		$455.00		$5.97	
Salt - 96%	3.5		$100.00		$0.35	
L-Lysine HCL	1.1		$4,500.00		$4.86	
Total Dry Sow	**1,000.0**	**kg**			**$177.38**	
Adjusted For Weight Loss			1.25	%	$179.60	
Plus Processing Cost			$3.25		$182.85	
Plus Labour Cost			$4.00		**$186.85**	
Sow Lactation:						
Wheat	564.0		$149.00		$84.04	
Barley	193.6		$120.00		$23.23	
Soybean Meal - 47 %	196.0		$465.00		$91.14	
Sow Micro Premix	5.0		$3,500.00		$17.50	
Limestone	14.9		$80.00		$1.19	
Dical (16% Ca-21% P)	20.7		$455.00		$9.42	
Salt - 96%	5.0		$100.00		$0.50	
L-Lysine HCL	0.8		$4,500.00		$3.60	
Total Nursing Sow	**1,000.0**	**kg**			**$230.62**	
Adjusted For Weight Loss			1.25	%	$233.50	
Plus Processing Cost			$3.25		$236.75	
Plus Labour Cost			$4.00		**$240.75**	
Boar Ration						
Wheat	230.0		$149.00		$34.27	
Barley	539.0		$120.00		$64.68	
Canola Meal - 34%	102.0		$360.00		$36.72	
Peas	91.0		$180.00		$16.38	
Sow Micro Premix	5.0		$3,500.00		$17.50	
Limestone	15.0		$80.00		$1.20	
Dical (16% Ca-21% P)	13.1		$455.00		$5.98	
Salt - 96%	3.5		$100.00		$0.35	
L-Lysine HCL	1.4		$4,500.00		$6.12	
Total Boar Ration	**1,000.0**	**kg**			$183.20	
Adjusted For Weight Loss			1.25	%	$185.49	
Plus Processing Cost			$3.25		$188.74	
Plus Labour Cost			$4.00		**$192.74**	

Creep Ration:				
Corn	139.8		$155.00	$21.66
Soybean Meal - 47 %	116.6		$465.00	$54.21
Sow Micro Premix	5.0		$3,500.00	$17.50
Canola Oil	20.0		$900.00	$18.00
Whey Powder	100.0		$800.00	$80.00
Herring Meal	60.0		$1,400.00	$84.00
Plasma	58.0		$7,500.00	$435.00
Limestone	12.2		$80.00	$0.98
Dical (16% Ca-21% P)	9.4		$455.00	$4.29
Salt - 96%	3.5		$100.00	$0.35
L-Lysine HCL	0.5		$4,500.00	$2.25
Oats - Steam rolled	475.0		$400.00	$190.00
Total Creep	**1,000.0**	**kg**		**$908.24**
Adjusted For Weight Loss			1.25 %	$908.47
Plus Processing Cost			$3.25	$911.72
Plus Labour Cost			$4.00	**$915.72**

Production Cost Worksheet

A. Operating Costs				Your Cost
1. Feed Requirements and Costs				
1.01 Sow Lactation Ration				
		20	days average weaning age	
	x	2.35	litters/sow/year	
	=	47.0	days lactation	
	x	6.0	kg ration/day	
	x	$228.00	/tonne ration	
	÷	1,000	kg/tonne	
	÷	21.87	pigs/sow	
	=	**$2.94**	**/pig sold**	
1.02 Sow Gestation Ration				
		365	days/year	
	-	47.0	days lactation	
	=	318.0	days gestation	
	x	2.6	kg ration/day	
	x	$274.00	/tonne ration	
	÷	1,000	kg/tonne	
	÷	21.87	pigs/sow	
	=	$10.36	/pig sold	
		Replacements (fed for 30 days)		
		240	replacements	
	x	30	days/year fed	
	x	2.6	kg ration/day	
	x	$274.00	/tonne ration	
	÷	1,000	kg/tonne	
	÷	13,119	pigs sold/year	
	=	$0.39	/pig sold	
Total	=	**$10.75**	**/pig sold**	
1.03 Boar Ration				
		365	days	
	x	2.5	kg ration/day	
	x	$228.00	/tonne ration	
	÷	1,000	kg/tonne	
	x	30	boars	
	÷	600	sows	
	÷	21.87	pigs/sow	
	=	**$0.48**	**/pig sold**	

1.04 Creep Feed

	1.0	kg ration/pig	
x	$1,520.00	/tonne of creep feed	
÷	1,000	kg/tonne	
x	25.62	pigs born alive/sow/year	
÷	21.87	pigs/sow	
=	**$1.78**	**/pig sold**	

2. Other Operating Costs

2.01 Veterinary Medicine & Supplies

	$7.25	/sow professional services	
+	$22.00	/sow medication	
÷	21.87	pigs/sow	
=	**$1.34**	**/pig sold**	

2.02 Maintenance & Repairs

	$1,395.39	/sow building & equipment cost	
x	0.55	% repair & maintenance	
÷	21.87	pigs/sow	
=	**$0.35**	**/pig sold**	

2.03 Hydro & Propane

	$10,000	hydro	
+	$15,500	propane	
÷	13,119	pigs marketed	
=	**$1.94**	**/pig sold**	

2.04 Insurance

	$837,235	buildings & equipment	
x	$0.78	/$100 capital	
÷	100		
÷	13,119	pigs marketed	
=	$0.50	/pig sold	
	$240,000	breeding stock	
+	$459,165	weaners	
x	$0.88	/$100 capital	
÷	13,119	pigs marketed	
=	$0.47	/pig sold	

	$1,200	business interruption coverage/sow	
x	600	sows	
x	$0.78	/$100 capital invested	
÷	13,119	pigs sold	
=	$0.43	/pig sold	
=	**$1.40**	**/pig sold**	

2.05 Manure Costs

Haulage	19.0	litres/sow/day	
x	$0.002	/litre	
x	365	days	
÷	21.87	pigs/sow	
=	$0.67	/pig sold	
Odour control	$4,300	total costs	
÷	13,119	pigs marketed	
=	$0.33	/pig sold	
Total =	**$1.00**	**/pig sold**	

2.06 Office Supplies

x	$2.00	$/sow	
÷	21.87	pigs/sow	
=	**$0.09**	**/pig sold**	

2.07 Marketing & Transportation

	$0.50	**/pig sold**	

2.08 Sow Replacement

	180.0	kg/sow (cull weight)	
x	$84.00	/100 kg live	
=	$151.20	/sow value of cull	
	$350.00	/sow value of replacement	
-	$151.20	/sow value of cull	
=	$198.80	net replacement cost	
x	40.00	% sow culling rate	
÷	21.87	pigs/sow	
=	**$3.64**	**/pig sold**	

2.09 Boar Replacement

	225.0	kg/boar (cull weight)	
x	$60.00	/100 kg live	
=	$135.00	/boar value of cull	

	$1,000.00	/boar value of replacement	
-	$135.00	/boar value of cull	
=	$865.00	net replacement cost	
x	50.00	% boar culling rate	
x	30	number of boars	
÷	600	number of sows	
÷	21.87	pigs/sow	
=	**$0.99**	**/pig sold**	

2.10 Property Taxes:

	$7,000	total taxes	
÷	13,119	pigs marketed	
=	**$0.53**	**/pig sold**	

2.11 Interest on Operating Cost:

$$\frac{\text{Subtotal Operating Cost x Farrow-to-Farrow Period}}{365} \times \frac{\%\ \text{Interest}}{2}$$

	365	days per year	
÷	2.35	litters/sow	
=	155	days farrow-to-farrow	
	$27.73	subtotal operating	
x	155	days farrow to farrow	
÷	365	days per year	
x	6.0	% operating interest rate	
÷	2	average	
=	**$0.35**	**/pig sold**	

B. Fixed Costs

3. Depreciation: $\frac{\text{Original Cost - Salvage Value}}{\text{Useful Life}}$

3.01 Buildings

	$502,950	building cost (including earthen manure storage)	
-	$45,495	salvage value (building only)	
÷	20	years useful life	
÷	13,119	pigs marketed	
=	**$1.74**	**/pig sold**	

3.02 Equipment

	$382,285	equipment cost	
-	$38,229	salvage value	
÷	10	years useful life	
÷	13,119	pigs marketed	
=	**$2.62**	**/pig sold**	

4. Investment:

$$\frac{\text{(Original Cost + Salvage Value)}}{2} \times \text{Investment Rate}$$

4.01 Land Cost

	$10,000	land investment	
+	$30,000	site preparation	
x	4.0	% investment rate	
÷	13,119	pigs marketed	
=	**$0.12**	**/pig sold**	

4.02 Buildings

	$502,950	building cost (including earthen manure storage)	
+	$45,495	salvage value (building only)	
÷	2	average	
x	4.0	% investment rate	
÷	13,119	pigs marketed	
=	**$0.84**	**/pig sold**	

4.03 Equipment

	$382,285	equipment cost	
+	$38,229	salvage value	
÷	2	average	
x	4.0	% investment rate	
÷	13,119	pigs marketed	
=	**$0.64**	**/pig sold**	

4.04 Breeding Stock

	$240,000	value of breeding stock	
x	4.0	% investment rate	
÷	13,119	pigs marketed	
=	**$0.73**	**/pig sold**	

C. Labour

	185.0	hours/week	
x	52	weeks/year	
x	$12.00	/hour	
÷	600	sows	
÷	21.87	pigs/sow	
=	$8.80	/pig sold	

Summary of Purchased Feeds Used

Number of Sows	**600**
Total Pigs Fed	**13,525**

	Total per Year (tonnes)	Total per Month (tonnes)	Total per Pig (kgs)	Total per Pig (lbs)
Sow Gestation	496.11	41.34	36.68	80.87
Sow Lactation	169.20	14.10	12.51	27.58
Boar	27.38	2.28	2.02	4.46
Creep	13.53	1.13	1.00	2.20
Total	**706.21**	**58.85**	**52.22**	**115.11**

Summary of Home Feed Ingredients Used

	Total per Year (tonnes)	Total per Month (tonnes)	Total per Pig (kgs)	Total per Pig (lbs)
Wheat	0.00	0.00	0.00	0.00
Barley	0.00	0.00	0.00	0.00
Corn	0.00	0.00	0.00	0.00
Soybean Meal - 47 %	0.00	0.00	0.00	0.00
Canola Meal - 34%	0.00	0.00	0.00	0.00
Peas	0.00	0.00	0.00	0.00
Creep Premix	0.00	0.00	0.00	0.00
Sow Micro Premix	0.00	0.00	0.00	0.00
Grower Micro Premix	0.00	0.00	0.00	0.00
Canola Oil	0.00	0.00	0.00	0.00
Whey Powder	0.00	0.00	0.00	0.00
Herring Meal	0.00	0.00	0.00	0.00
Plasma	0.00	0.00	0.00	0.00
Limestone	0.00	0.00	0.00	0.00
Dical (18% Ca-21% P	0.00	0.00	0.00	0.00
Salt - 96%	0.00	0.00	0.00	0.00
L-Lysine HCL	0.00	0.00	0.00	0.00
L-Threonine	0.00	0.00	0.00	0.00
DL-Methionine	0.00	0.00	0.00	0.00
Oats - Steam rolled	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00
Total	706.21	58.85	52.22	115.11

For further information contact your local Manitoba Agriculture, Food and Rural Initiatives office.

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